

Claims

What is claimed is:

1. A graphic display editor for use in creating a user interface display that represents the operation of one or more entities within the process plant, the graphic display editor comprising:

a library of graphic objects, each graphic object including a visual representation of a physical or a logical entity within the process plant;

a graphically based editor canvas routine that enables a user to define an executable graphic display by placing one or more visual representations of the graphic objects from the library of graphic objects onto an edit canvas to define a manner in which the one or more visual representations of the graphic objects will be displayed on a display device to a user during execution of the graphic display;

a property definition canvas routine adapted to enable a user to define a property associated with at least one of the plurality of graphic objects;

a binding definition routine adapted to enable a user to specify a binding between the property and a runtime environment within the process plant; and

an action definition routine adapted to enable a user to interact with the graphic display to perform a function using the graphic display.

2. The graphic display editor of claim 1, wherein the action definition routine enables a user to link to a further graphic display.

3. The graphic display editor of claim 2, wherein the further graphic display provides information about an entity within the graphic display.

4. The graphic display editor of claim 3, wherein the further graphic display is a faceplate display.

5. The graphic display editor of claim 2, wherein the graphic display illustrates a first section of the process plant and the further graphic display illustrates a second and different section of the process plant.

6. The graphic display editor of claim 2, wherein the graphic display illustrates a first section of the process plant and the further graphic display illustrates a sub-section of the first section of the process plant.

7. The graphic display editor of claim 6, wherein the graphic display illustrates the first section of the process plant at a first level of detail and the further graphic display illustrates the sub-section of the first section of the process plant at a greater level of detail than the first level of detail.

8. The graphic display editor of claim 2, wherein the graphical display provides a first functional view of a section of the process plant and the further display provides a second functional view of the section of the process plant.

9. The graphic display editor of claim 8, wherein the first functional view is a control operator view and the second functional view is one of a maintenance view or a business view or a simulation view or an engineering view.

10. The graphic display editor of claim 9, wherein the control operator view illustrates process values associated with one or more physical entities during operation of the process plant.

11. The graphic display editor of claim 8, wherein the first functional view is a maintenance view and the second functional view is one of a control view, or a business view or a simulation view or an engineering view.

12. The graphic display editor of claim 11, wherein the maintenance view illustrates an indication of a health or status of a physical entity within the process plant.

13. The graphic display editor of claim 1, wherein the action definition routine enables a user to link to a control routine display illustrating a control routine implemented within the process plant.

14. The graphic display editor of claim 1, further including a definition routine adapted to enable a user to define a routine that effects the visual representation of one of the graphic objects based on the property during execution of the graphic display.

15. The graphic display editor of claim 14, wherein the definition routine enables a user to define the routine as an animation routine that animates the visual representation of the one of the graphic objects.

16. A set of graphic displays that are executable on one or more display devices to visually represent the operation of one or more entities within a process plant, the set of graphic displays comprising:

a first graphic display and a second graphic display, the first graphic display including;

a display area;

one or more visually interconnected graphic objects, each of the graphic objects including a visual representation of a physical or a logical entity within the process plant and depicted in the display area;

a property definition defining a property associated with at least one of the plurality of graphic objects;

a binding definition specifying a binding between the property and a runtime environment within the process plant; and

a visual link within the display area that enables a user to interact with the first graphic display to link to the second graphic display.

17. The set of graphic displays of claim 16, wherein the second graphic display provides information about an entity within the first graphic display.

18. The set of graphic displays of claim 17, wherein the second graphic display is a faceplate display.

19. The set of graphic displays of claim 16, wherein the first graphic display illustrates a first section of the process plant and the second graphic display illustrates a second and different section of the process plant.

20. The set of graphic displays of claim 16, wherein the first graphic display illustrates a first section of the process plant and the second graphic display illustrates a sub-section of the first section of the process plant.

21. The set of graphic displays of claim 20, wherein the first graphic display illustrates the first section of the process plant at a first level of detail and the second graphic display illustrates the sub-section of the first section of the process plant at a greater level of detail than the first level of detail.

22. The set of graphic displays of claim 16, wherein the first graphic display provides a first functional view of a section of the process plant and the second graphical display provides a second functional view of the section of the process plant.

23. The set of graphic displays of claim 22, wherein the first functional view is a control operator view and the second functional view is one of a maintenance view or a business view or a simulation view or an engineering view.

24. The set of graphic displays of claim 22, wherein the first functional view is a maintenance view and the second functional view is one of a control view, or a business view or a simulation view or an engineering view.

25. The set of graphic displays of claim 24, wherein the maintenance view illustrates an indication of a health or status of a physical entity within the process plant.

26. The set of graphic displays of claim 16, wherein the first graphic display is an operators view illustrating the operation of one or more physical entities within the process plant and the second graphic display is a control module display illustrating a control routine for the one or more physical entities within the process plant.

27. A process control and configuration system for use in a process plant, comprising:

a plurality of physical and logic process entities which operate together to perform a process;

a process controller communicatively connected to the plurality of physical and logical process entities;

one or more control routines implemented on the process controller to control the operation of the plurality of physical and logic process entities;

a display device including a processor and a display screen; and

a set of interrelated graphic displays, wherein each of the graphic displays is executable on the display device to visually represent the operation of one or more of the process entities within the process plant on the display screen, wherein one of the set of interrelated graphic displays may be sequentially accessed from another one of the set of graphic displays.

28. The process control and configuration system of claim 27, further including a graphic display editor adapted to create each of the set of interrelated graphic displays.

29. The process control and configuration system of claim 27, wherein one of the set of interrelated graphic displays includes a display area, one or more visually interconnected graphic objects, each of the graphic objects including a visual representation of a physical or a logical entity within the process plant, a property definition defining a property associated with at least one of the plurality of graphic objects and a binding definition specifying a binding between the property and a runtime environment within the process plant.

30. The process control and configuration system of claim 29, wherein the one of the set of interrelated graphic displays includes a visual link within the display area that enables a user to interact with the one of the set of interrelated graphic displays to link to the another one of the set of interrelated graphic displays.

31. The process control and configuration system of claim 30, wherein the another one of the set of interrelated graphic displays provides information about an entity within the one of the set of interrelated graphic displays.

32. The process control and configuration system of claim 27, wherein the one of the set of interrelated graphic displays illustrates a first section of the process plant and the another one of the set of interrelated graphic displays illustrates a second and different section of the process plant.

33. The process control and configuration system of claim 27, wherein the one of the set of interrelated graphic displays illustrates a first section of the process plant and the another one of the set of interrelated graphic displays illustrates a sub-section of the first section of the process plant.

34. The process control and configuration system of claim 27, wherein the one of the set of interrelated graphic displays illustrates a first functional view of a section of the process plant and the another one of the set of interrelated graphic displays illustrates a second function view of the section of the process plant.

35. The process control and configuration system of claim 34, wherein the first functional view is a control operator view and the second functional view is one of a maintenance view or a business view or a simulation view or an engineering view.

36. A process control and configuration system for use in a process plant, comprising:

a plurality of physical and logic process entities which operate together to perform a process;

a process controller communicatively connected to the plurality of physical and logical process entities;

one or more control routines implemented on the process controller to control the operation of the plurality of physical and logic process entities;

a display device including a processor and a display screen; and

a graphic display editor that enables a user to create a set of interrelated graphic displays, wherein each of the set of interrelated graphic displays is executable on the display device to visually represent the operation of one or more of the process entities within the process plant on the display screen.

37. The process control and configuration system of claim 36, wherein the graphical display editor is adapted to interrelate the graphic displays by allowing a user to specify a manner in which one of the graphic display is related to another one of the graphic displays.

38. The process control and configuration system of claim 37, wherein the another one of the graphic displays provides information about an entity within another one of the graphic displays.

39. The process control and configuration system of claim 37, wherein the one of the graphic displays illustrates a first section of the process plant and the another one of the graphic displays illustrates a second and different section of the process plant adjacent to the first section of the process plant.

40. The process control and configuration system of claim 37, wherein the one of the graphic displays illustrates a first section of the process plant and the another one of the graphic displays illustrates a sub-section of the first section of the process plant.

41. The process control and configuration system of claim 36, wherein the graphic display editor is adapted to interrelate the graphic displays by allowing a user to create a first one of the graphic displays as a first functional display and to create a second one of the graphic displays as a second functional display.

42. The process control and configuration system of claim 41, wherein the first functional display is a control operator display and the second functional display is one of a maintenance display or a business display or a simulation display or an engineering display.

43. The process control and configuration system of claim 41, wherein the first functional display is a maintenance display and the second functional display is one of a control display or a business display or a simulation display or an engineering display.